

IN THE CLAIMS:

This version of the claims replaces and supercedes all prior versions of the claims.

1. (Cancelled)
2. (Currently Amended) A heating treatment apparatus comprising:
a heater for generating heat for treating living-body tissues;
a driving circuit for driving the heater to one or more temperature level;
an initial characteristics measurement device for measuring the initial operating characteristics of the heater;
a heating setting device for setting a resistance value for each temperature level,
respectively, for controlling the driving circuit on the basis of the measurement;
~~The heating treatment apparatus according to claim 1, further comprising:~~
a memory device in which a plurality of resistance value tables corresponding to changes in the heating temperature of the heater are stored respectively in association with a plurality of treatment tools;
a table reading device for selectively reading out resistance value data from the plurality of resistance value tables stored in the memory device, on the basis of the measurement;
an operating device for setting the temperature level of the heater;
a control section for controlling the supply of electrical power to the heater by a power supply device, on the basis of the resistance value set by the heating setting device

corresponding to the set temperature level set by the operating device-and a detection results of a resistance value detection device;

wherein the heating setting device sets the resistance value for each temperature level, respectively, on the basis of the resistance value data read out from the plurality of resistance value tables.

3. (Currently Amended) A heating treatment apparatus comprising:

a heater for generating heat for treating living-body tissues;

a driving circuit for driving the heater to one or more temperature level;

an initial characteristics measurement device for measuring the initial operating characteristics of the heater;

a heating setting device for setting a resistance value for each temperature level, respectively, for controlling the driving circuit on the basis of the measurement;

~~The heating treatment apparatus according to claim 1, further comprising:~~

a resistance value detecting device for detecting a resistance value of the heater on the basis of the power supplied to the heater;

an temperature measuring device for measuring the ambient temperature in a vicinity of the heating treatment apparatus nearly simultaneously to the resistance value detecting device detecting the resistance value of the heater;

a temperature correcting device for calculating a heating set value on the basis of the detection results detected by the resistance value detecting device and the measurement results measured by the temperature measuring device; and

an output power control section for controlling the electrical power supplied to the heater, on the basis of the heating set value calculated by the temperature correcting device.

4. (Currently Amended) A heating treatment apparatus comprising:
a heater for generating heat for treating living-body tissues;
a driving circuit for driving the heater to one or more temperature level;
an initial characteristics measurement device for measuring the initial operating characteristics of the heater;
a heating setting device for setting a resistance value for each temperature level,
respectively, for controlling the driving circuit on the basis of the measurement;
~~The heating treatment apparatus according to claim 1, further comprising:~~
a plurality of treatment tools each respectively having a heater;
a driving device having a connector receiving section composed in such a manner that at least one of the plurality of treatment tools can be attached to or detached therefrom, selectively[[,]]; and
a power supply device for supplying electrical power to the heater while controlling the amount of heat generated by the heater of the treatment tool attached to the connector receiving section.

5. (Previously Presented) The heating treatment apparatus according to claim 4, wherein the treatment tool comprises:
a treatment section for grasping and treating living-body tissues; and

a connector which is freely attachable to and detachable from the connector receiving section of the driving device;

wherein the initial operating characteristic measured by the initial characteristics measurement device is an initial resistance value of the heater.

6. (Previously Presented) The heating treatment apparatus according to claim 5, wherein the heater is provided in the treatment section.

7. (Cancelled)

8. (Currently Amended) A heating treatment apparatus comprising:
a heater for generating heat for treating living-body tissues;
a driving circuit for driving the heater by supplying electrical power thereto to one or more temperature levels;
a resistance value detecting circuit for detecting a resistance value of the heater on the basis of the power supplied to the heater by the driving circuit;
a control section for controlling the driving of the heater by the driving circuit on the basis of the detection results of the resistance value detecting circuit;
an initial characteristics measurement device for measuring the initial operating characteristics of the heater;
a heating setting device for setting a resistance value for each temperature level, respectively, for controlling the driving circuit on the basis of the measurement; The heating treatment apparatus according to claim 7, further comprising:

a plurality of treatment tools each respectively having a heater;
a driving device having a connector receiving section composed in such a manner that at least one of the plurality of treatment tools can be freely attached thereto or detached therefrom, selectively[[,]]; and
a power supply device for supplying electrical power to the heater while controlling the amount of heat generated by the heater.

9. (Previously Presented) The heating treatment apparatus according to claim 8, wherein the treatment tool comprises:

a treatment section for grasping and treating living-body tissues;
and a connector which is freely attachable to and detachable from the connector receiving section of the driving device;
wherein the initial operating characteristic measured by the initial characteristics measurement device is an initial resistance value of the heater.

10. (Previously Presented) The heating treatment apparatus according to claim 9, wherein the heater is provided in the treatment section.

11. (Previously Presented) A heating treatment apparatus comprising:
a plurality of treatment tools each having a heater for generating heat for treating living-body tissues;
a driving device having a connector receiving section composed in such a manner that at least one of the plurality of treatment tools can be attached to or detached

therefrom, selectively, and a driving circuit for driving the heater by supplying electrical power thereto to one or more temperature levels;

a resistance value detecting circuit for detecting a resistance value of the heater on the basis of the electrical power supplied to the heater by the driving circuit;

a control section for controlling the supply of electrical power by the driving circuit, on the basis of the detection results of the resistance value detecting circuit;

an identifying device provided respectively for each one of the plurality of treatment tools;

a judging device for judging at least one treatment tool connected to the connector receiving section, on the basis of the identifying device; and

a heating setting device for setting a resistance value for each temperature level, respectively, for controlling the driving circuit on the basis of the judgment results of the judging device.

12. (Previously Presented) The heating treatment apparatus according to claim 11, wherein the identifying device comprises a treatment tool identifier for indicating the type of the treatment tool and a heating element identifier holding respective initial resistance value information for individual heaters.

13. (Previously Presented) The heating treatment apparatus according to claim 11, wherein the treatment tool comprises:

a treatment section for grasping and treating living-body tissues; and

a connector which can be freely attached to and detached from the connector receiving section of the driving device;

wherein the identifying device is provided in the treatment section or the connector.

14. (Previously Presented) The heating treatment apparatus according to claim 11, wherein the judging device judges the type of the treatment tool and the initial resistance value thereof.

15. (Previously Presented) A heating treatment apparatus comprising:
a plurality of treatment tools each having a heater for generating heat for treating living-body tissues;

a driving device having a connector receiving section composed in such a manner that at least one of the plurality of treatment tools can be freely attached to or detached therefrom, selectively, and a power supply device for supplying electrical power to the heater while controlling the amount of heat generated by the heater to one or more temperature levels;

a resistance value detecting device for detecting a resistance value of the heater on the basis of the electrical power supplied by the power supply device;

a memory device for storing a plurality of resistance value tables corresponding to changes in the heating temperatures of the heater, respectively in association with a plurality of treatment tools;

a judging device for judging at least one treatment tool connected to the connector receiving section;

a table reading device for selectively reading out resistance value data from the plurality of resistance value tables stored in the memory device, on the basis of the judgment results of the judging device;

a heating setting device for setting a resistance value for each temperature level, respectively, for controlling the power supply device on the basis of judgment results from the judging device;

an operating device for setting the temperature level of the heater; and

a control section for controlling the supply of power to the heater by the power supply device, on the basis of the resistance value set by the heating setting device corresponding to the set temperature level set by the operating device and the detection results of the resistance value detecting device;

wherein the heating setting device sets the resistance value for each temperature level, respectively, on the basis of the resistance value data read out from the plurality of resistance value tables.

16. (Previously Presented) The heating treatment apparatus according to claim 15, wherein the treatment tool comprises:

a treatment section for grasping and treating living-body tissues; and

a connector which can be freely attached to and detached from the connector receiving section of the driving device;

wherein the judging device judges the type of the treatment tool and an initial resistance value thereof.

17. (Previously Presented) A heating treatment apparatus comprising:
- a treatment tool having a heater for generating heat for treating living-body tissues;
 - a resistance value detecting device for detecting the resistance value of the heater, on the basis of the electrical power supplied to the heater;
 - an temperature measuring device for measuring the ambient temperature in a vicinity of the heating treatment apparatus nearly simultaneously to the resistance value detecting device detecting the resistance value of the heater;
 - a temperature correcting device for calculating a required resistance value for each temperature level on the basis of the detection results detected by the resistance value detecting device and the measurement results measured by the temperature measuring device;
 - a heating setting device for setting a control resistance value for a specific temperature level, said control resistance value is selected from said required resistance value for each temperature level calculated by the temperature correcting device; and
 - an output power control section for controlling the electrical power supplied to the heater of the treatment tool, on the basis of the control resistance value set by the heating setting device.

18. (Cancelled)